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So the great law of the equilateral triangle, which Dr. Bonwill has discovered, and ranks beside the immutable law of gravitation, and which he believes impossible save by a special creation, bids fair to be undone by man himself, and to be superseded through civilization by a jaw of greater anterior angle and of broader base.

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## INSTANCES OF THE EFFECT OF MUSICAL SOUNDS ON ANIMALS.

BY R. E. C. STEARNS.

(Continued from page 130.)

ANOTHER anecdote relating to

### PIGEONS AND MUSIC

is recorded by Goodrich.

"Bertoni, a famous instructor in music, while residing in Venice, took a pigeon for his companion, and, being very fond of birds, made a great pet of it. The pigeon, by being constantly in its master's company, obtained so perfect an ear for music that no one who saw his behavior could doubt for a moment the pleasure it took in hearing its master play and sing."

The Rev. Mr. James also furnished us with the following:

"I have a canary of the feminine persuasion who is particularly fond of music. Immediately I begin to play upon the flute she chirps about as if enjoying the music. If I open the cage-door and leave her, she will come as near to me as possible, but not attempt to fly to the music; but if I put her upon my desk, and lay the flute down, she will perch upon the end, and allow me to raise the instrument and play. I often take her into the church and play there upon the organ, and she will perch upon my fingers, notwithstanding the inconvenience of the motion of the hands, and chirp in evident delight at the sweet sounds."

Following in the train of the domestic animals the hare furnishes an intermediate link between the same and the true *feræ naturæ*.

#### HARES AND MUSIC.

One Sunday evening five choristers were walking on the banks of the river Mersey, in England. Being somewhat tired, they sat down and began to sing an anthem. The field where they sat had a wood at its termination. While they were singing a hare issued from this wood, came with rapidity toward the place where they were sitting, and made a dead stand in the open field. She seemed to enjoy the harmony of the music, and turned her head frequently, as if listening. When they stopped she turned slowly toward the wood. When she had nearly reached the end of the field they again commenced an anthem, at which the hare turned around and ran swiftly back to within the same distance as before, where she listened with apparent rapture till they had finished. She then bent her way toward the forest with a slow pace, and disappeared."

#### SEALS AND MUSIC.

Mr. Laing, in his account of a voyage to Spitzbergen, mentions that the son of the master of the vessel in which he sailed, who was fond of playing on the violin, never failed to have a numerous auditory when in the seas frequented by seals, and they have been seen to follow a ship for miles when any person was playing on deck.

#### HYENAS AND MUSIC.

Sparman furnishes the following story: "One night at a feast near the Cape a trumpeter who had got himself well filled with liquor, was carried out of doors in order to cool and sober him. The scent of him soon attracted a spotted hyena, which threw him on his back and carried him away to Sable Mountain, thinking him a corpse and consequently a fair prize. In the meantime our drunken musician awoke, sufficiently sensible to know the danger of his situation and to sound his alarm with his

trumpet, which he carried at his side. The beast, as it may be imagined, was greatly frightened in its turn, and immediately ran away."

#### THE WOLF AND THE PIPER.

A story is told of a Scotch bagpiper, who was traveling in Ireland one evening, when he suddenly encountered a wolf that seemed to be very ravenous. The poor man could think of no other expedient to save his life than to open his wallet and try the effect of hospitality. He did so, and the savage beast swallowed all that was thrown to him with such voracity that it seemed as if his appetite was not in the least degree satisfied. The whole stock of provisions was, of course, soon spent, and now the man's only resource was in the virtues of his bagpipe. This the monster no sooner heard than he took to the mountains with the same precipitation with which he had left them. The poor piper did not wholly enjoy his deliverance, for, looking ruefully at his empty wallet, he shook his fist at the departing animal, saying, "Ay! are these your tricks? Had I known your humor, you should have had your music before your supper."

The flight of the wolf before "the virtues" of a bagpipe may be interpreted as evidence of highly æsthetic sound sense in the said animal.

#### HIPPOPOTAMI AND MUSIC.

The enterprising and lamented Clapperton informs us that, when he was departing on a warlike expedition from Lake Mugaby, he had convincing proofs that the hippopotami are sensibly affected by musical sound:

"As the expedition passed along the banks of the lake at sunrise," says he, "these uncouth and stupendous animals followed the drums the whole length of the water, sometimes approaching so close to the shore that the spray they spouted from their mouths reached the persons who were passing along the banks. I counted fifteen, at one time, sporting on the surface of the water."

## ALLIGATOR AND MUSIC.

“When the late Dr. Stimpson and I were in Florida in 1869, some person gave him a young alligator. The specimen was about two-and-a-half feet from tip of snout to tip of tail. To secure the beast we made a halter of a piece of bedcord, say three feet long, tying one end around its neck and the other to the leg of the table in the room we slept in. While sitting before a pitch-pine fire in the evening, discussing the events of the day, by way of variety we serenaded that alligator with vocal performances of a high order. Our musical efforts produced, so far as we could perceive, not the slightest effect; the poor brute knew that he was tied, and that it would be useless to try and get away”

From the gigantic and uncouth let us return to the more attractive and familiar animals belonging to certain groups of the Rodentia, some of which are almost domestic through the proximity of their habitat to that of man.

## SQUIRRELS AND MUSIC.

In Dr. Merriam's charming volume, in treating of the gray squirrels,<sup>1</sup> he says: “They were extremely fond of music (in the most comprehensive sense of the term), and it affected them in a peculiar manner. Some were not only fascinated but actually spellbound by the music-box or guitar. And one particularly weak-minded individual was so unrefined in his taste that, if I advanced slowly, whistling “Just before the Battle, Mother,” in as pathetic tones as I could muster for the occasion, he would permit me even to stroke his back, sometimes expressing his pleasure by making a low purring sound. This was a gray, and I several times approached and stroked him as above described. I once succeeded in getting near enough to a black to touch him, whereupon he instantly came to his senses and fled. When listening to music they all acted much in the same way. They always sat bolt upright, inclining a little forward (and if eating a nut were sure to

<sup>1</sup> *Sciurus carolinensis leucotis*.

drop it), letting the forepaws hang listlessly over the breast, and, turning the head to one side in a bewildered sort of way, assumed a most idiotic expression.

#### MICE AND MUSIC.

In 1804 Dr. Samuel Cramer, of Virginia, communicated to Dr. Barton the following very curious account of the influence of music upon the common House Mouse. He said: "One evening in the month of December, as a few officers on a British man-of-war in the harbor of Portsmouth were seated around the fire, one of them began to play a plaintive air on the violin. He had scarcely performed ten minutes when a mouse, apparently frantic, made its appearance in the centre of the floor, near the large table which usually stands in the ward-room,—the residence of the lieutenants in ships of the line. The strange gestures of the little animal strongly excited the attention of the officers, who, with one consent, resolved to suffer it to continue its singular actions unmolested. Its exertions now appeared to be greater every moment. It shook its head, leaped about the table, and exhibited signs of the most ecstatic delight.

"It was observed that in proportion to the gradation of the tones of the soft point the ecstasy of the animal appeared to be increased, and *vice versa*. After performing actions which an animal so diminutive would at first sight seem incapable of, the little creature, to the astonishment of the delighted spectators, suddenly ceased to move; fell down and expired without evincing any symptoms of pain." <sup>2</sup>

The anecdotes herein submitted are more entertaining than important; they contribute but little to our enlightenment on the main point. As a totality they are sufficient to show that an interesting field of inquiry is offered to us, that experiments are worth the making, and that only by carefully devised experiments can satisfactory data be obtained.

<sup>2</sup> The *Phila. Med. and Phys. Jour.*, Vol. I, 1804, as quoted by Dr. Merriam in his "Mammals, etc."

In reviewing the examples here brought together, those which relate to the effect of flute notes on sheep and pigeons are usefully suggestive, as furnishing a hint; *first*, as to an instrument, and *second*, indicating a class of sounds worth experimenting with.

The interest exhibited by pigs, oxen, and cows in the more complex musical sounds, or combinations of sounds, such as would be classed under the second definition, is shown by some of the examples. We have no information as to the character of the instruments, or the tunes, or sounds. The simple fact is proven that these animals were attracted by instrumental music, and the inference is that the sensations produced were pleasurable.

As to how far the behavior of the dogs in some of the cases given may be attributed to or regarded as the effect of music, or considered as nothing more than a manifestation of impulse or spontaneous activity which takes a hand in whatever is going on at the time; it is evident that this is a question for future determination.

We have all noticed the pleasure exhibited by these animals when the master puts on his hat and goes out for a walk, a drive, or a hunt. We have seen them racing with each other, with horses in the field, when both horses and dogs seem to derive pleasure from the performance, and to be acting under the impulse which finds birth in exuberant vitality, or simple, healthful life. It would seem that the example of motion excites to action, and the sight of a swiftly moving railway train or a locomotive tempts and stimulates them to trials of speed.

In the Lake Superior region, where I lived thirty years ago, in the winter season, which meant, at that time, five months' isolation from the rest of mankind, the mail-bags were carried once a fortnight by dog-trains in charge of three or four Indians or half-breeds. There were generally three or four sleds, with as many dogs to each. The dogs were gaily decorated with bits of bright-colored flannel and ribbons, and bells were added for sound and show. Upon arriving at the summit of a hill about half a mile from the centre of the camp, they halted for a breathing spell. I shall never forget the lively scenes that always followed these brief halts, when men and dogs started down the

slope towards my office, at full speed; the Indians whooping at the top of their voices, and the dogs adding to the tumult by their vociferous and joyful barking, and the merry jingle of the bells.

Here man and beast were moved by a common impulse, which found relief, expression, and pleasure in intense activity and noise. They had shared together, as companions and friends, the fatigue and dangers and monotony of a long journey over dreary reaches and wastes of snow, and through the gloom of silent forests, and now had reached the end which gave them rest, food, and security.

It is hardly worth the time to further consider the illustrations here brought together, as they are for the greater part not sufficiently circumstantial to furnish a deduction of any real value; they are rather like straws in the air which indicate the course of the wind, or blaze-marks on the trees that indicate a path to be followed.

#### REFERENCES :

The paragraphs beginning page 26, line 16; p. 127, l. 23; p. 128, l. 8; p. 236, l. 9; p. 237, l. 4, 19, 26; p. 238, l. 4, 23; are taken from Goodrich's little book, "Anecdotes of the Animal Kingdom," 16 mo., Boston: 1848. P. 26, l. 23, 28; p. 123, l. 1, 19; p. 124, l. 29; p. 125, l. 18, 27; p. 126, l. 10, 29; from *Science Gossip*, various years to 1875, P. 27, l. 6; p. 28, l. 4; letter from Rev. Mr. James, March 24, 1884. P. 27, l. 17; letter from Prof. Davidson, March 22, 1885. P. 28, l. 18; correspondence of *Globe-Democrat*, P. 239, l. 17; from "The Mammals of the Adirondack Region," by C. Hart Merriam, M.D., N. Y.: 1884. Published by the Author.